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## **SHEBERGHAN GAS GENERATION ACTIVITY (SGGA)**

Contract No. EPP-I-00-03-00004-00, USAID Task Order No. AID-306-TO-12-00002

### **SGGA Monthly Report on Data Collection Progress**

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## Acronyms and Abbreviations

AEAI	Advanced Engineering Associates International, Inc.
AGS	Afghan Geological Survey
APA	Afghanistan Petroleum Authority
CBAGS II	GIZ Geological Consultancy & Capacity Building Services Project
MoMP	Ministry of Mines and Petroleum
PRMS	Petroleum Resources Management System
RFP	Request for Proposals
SGGA	Sheberghan Gas Generation Activity
SPE	Society of Petroleum Engineers
USAID	United States Agency for International Development

## 1 INTRODUCTION

- This Monthly Data Collection Progress Report of the USAID-funded Sheberghan Gas Generation Activities (SGGA) program, of which Advanced Engineering Associates International, Inc. (AEAI) is the prime contractor, covers the period 1 July 2015 through 31 July 2015. The report is submitted as a Project Deliverable under Section F.5, Deliverable 13 of Modification 6 to Task Order AID-306-TO-12-00002 of Contract Number AID-EPP-I-00-03-00004.

## 2 BACKGROUND

- USAID, through AEA, intends to fund preparation of reserve estimates based on existing data for up to seven natural gas fields in the Sheberghan area of northern Afghanistan. The seven fields, all of which are located in Jawzjan Province in the Amu Darya Basin, are set forth below:
  - Gerquduq
  - Khoja Gogerdak
  - Yatimtaq
  - Shahkarak
  - Jangl-e-Kalan
  - Chekh Che
  - Khoja Bolan

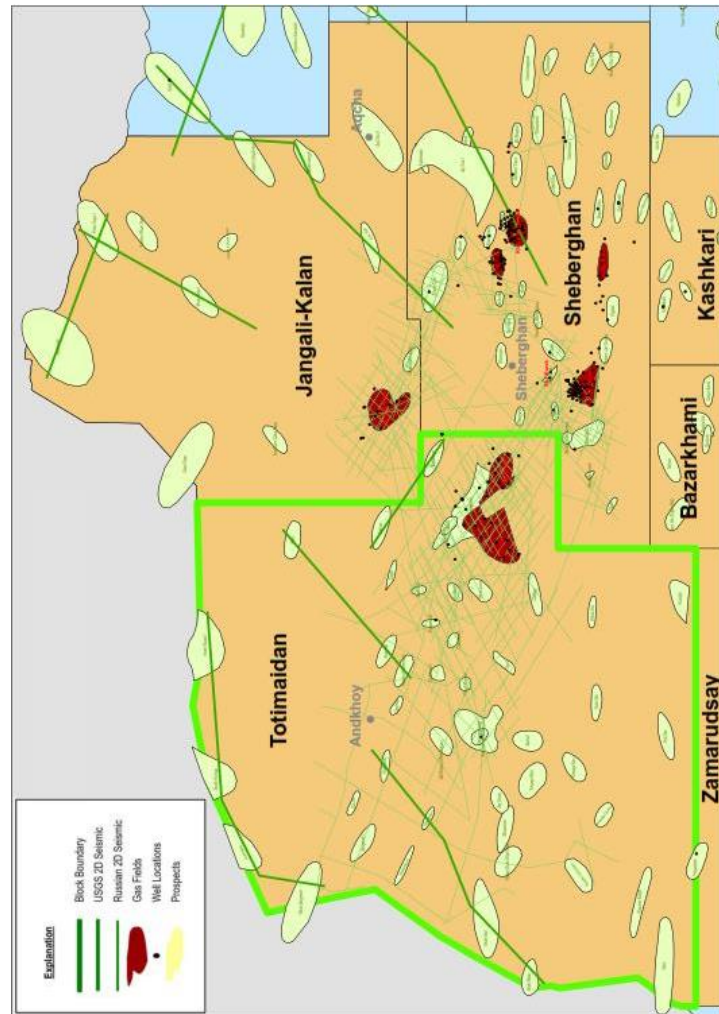
The fields are State-owned and controlled by the Ministry of Mines and Petroleum (MoMP). The general field locations are shown on the area map in Figure 1.

- The seven fields in question were discovered by Soviet state companies in the 1960's and '70's. Most of the available geological, geophysical and other data for the fields and their wells date from before 1989, the end of the Soviet occupation, and are in Russian with limited information in Dari. However, there are more recent well test reports in English for four wells in the Yatimtaq field and four wells in the Gerquduq field as a result of a 2013 re-entry program.
- Natural gas from the fields is sour (containing high concentrations of H<sub>2</sub>S and CO<sub>2</sub>) requiring processing beyond the capacity of the small uncommissioned amine plant in the area to render it fuel/pipeline quality.
- Reserve estimates are needed for the fields to attract private investment for the development of central gas gathering and gas processing facilities and for the development of a 200 MW gas-fired electrical generation facility near the city of Sheberghan. Additionally, a 50- MW gas-fired power plant is to be constructed at Mazar-e-Sharif and supplied from the fields.
- The threshold question for foreign investors and financial institutions in considering a large investment in gas gathering lines, a gas processing plant or gas-fueled power infrastructure will be whether there are sufficient economically recoverable reserves to supply gas to the gas processing plant and its anticipated principal customer(s), the power plant(s), for 25 years. They must be convinced that there are adequate gas reserves and so will expect detailed reserve estimates that comply with internationally accepted petroleum engineering and evaluation principles and that conform to the concepts, definitions and standards of the Society of Petroleum Engineers (SPE)

Petroleum Resources Management System (PRMS), as well as the related Guidelines for Application of the PRMS.

- AEAI will issue a Request for Proposal (RFP) to enlist the services of a qualified engineering firm (i) to evaluate the existing geological, geophysical and well data for the fields and (ii) to prepare the reserve estimates using the existing data to meet those internationally accepted concepts and standards, if the available data is sufficient.
- The ability of the selected engineering firm to develop reserve estimates and the accuracy of those estimates will depend in large measure on the completeness of the data provided to the firm. In order for AEAI to collect all available data, it needed the MoMP to agree in writing to allow AEAI full access to all geological, geophysical and well data related to the fields and to provide AEAI the authority to review and copy all data. Beginning in October 2014, AEAI worked to persuade the Ministry to provide AEAI such access and authority, including supplying the MoMP a draft authorization letter and a confidentiality agreement.
- While the necessary authorization was pending, AEAI started gathering data from its own reports and those of others that were available. Its representatives also met with staff from other existing projects to determine what, if any, relevant data they may have accumulated, including the following meetings:
  - On May 10, 2015, Randolph Bruton of AEAI met with Engineer Orest Grynyk of UNICON, Technical Expert working on Reform of the Afghanistan State Gas Enterprise Project. The parties discussed the identification and location of relevant data, however, Unicon could not contribute any data or information that AEAI did not already have.
  - On May 23, 2015, Mr. Bruton met with Jawid Maqsoudi, Deputy Team Leader, and Asf Akbari, Geologist/GIS Trainer, of the GIZ Geological Consultancy & Capacity Building Services Project (CBAGS II), since their task was to collect oil and gas data and advise the Afghanistan Petroleum Authority (APA) on creation of an oil and gas database. That project was still in the process of locating data and, although very cooperative, could be of no assistance to AEAI.

**Figure 1 - Sheberghan Areas Blocks - Known Fields, Structures, and Seismic**



### 3 ACHIEVEMENTS/ACTIVITIES

- AEAJ received the Agreement for Access to and Use of Data, and Confidentiality of Data (Confidentiality Agreement) signed by the Minister of Mines and Petroleum under date of June 28, 2015, and the directive to MoMP divisions to cooperate with and assist AEAJ in gas field technical data access and gathering signed by the Minister under date of July 12, 2015. The receipt of those documents represented the culmination of nine long months of efforts by AEAJ, reinforced by USAID, to obtain the cooperation of MoMP in data collection needed for reserve estimates for the seven fields.
- AEAJ completed a revised RFP for subcontracting petroleum engineering services for gas field data evaluation and reserve estimates, and sent the draft RFP to USAID with a request for review and comment.
- Once armed with the authorization letter from the Minister, AEAJ began the collection of available data held by the MoMP, its operating divisions and staff.

## 4 MEETINGS AND PROGRESS

- On July 11, 2015, AEAI met with APA's Z. Sarwari and discussed the status of long pending directive from the Minister requiring MoMP divisions to cooperate with AEAI on gas field data collection.
- On July 14, 2015, a meeting was held with the Afghan Geological Survey (AGS) to arrange coordination for data collection for the gas reserve studies. Despite having a copy of the Minister's directive on cooperation, AGS officials would not discuss the matter because they had not received a copy directly from the Minister's office. AEAI immediately contacted the Minister's staff to request that the directive be sent to all MoMP's relevant divisions. The directive was sent and that issue was resolved as to the AGS.
- On July 15, 2015, AEAI met with Eng. Sharif, AGS' Acting Information Director and staff. Eng. Sharif demonstrated the USGS GIS data on the AGS Information Department computers. Eng. Sharif agreed to download the Information Department data if we would supply an external hard drive for the purpose after Eid.
- The same day Eng. Sharif introduced us to the AGS Library staff and four CDs containing relevant data were identified. It was agreed that AEAI would return after Eid to copy the CDs.
- On July 25, 2015, AEAI again met with Eng. Sharif to provide him an external hard drive for downloading gas field data from the AGS Information Department's computers for use by AEAI.
- The same day AEAI met again with the staff of the AGS library and began downloading data from the CDs previously found in their custody, and met with Director of MoMP's IT Department and discussed the department's function and what was needed to extract data from that department's servers.
- On July 26, 2015, AEAI met with Joe Seegers, Team Leader of GIZ CBAGS II project and selected staff, to discuss in some detail the nature and purpose of our respective data collection projects. GIZ is collecting both oil and gas data for all of Afghanistan for the purpose of advising APA on establishing a georeferenced, text sensitive national oil and gas database. The data collection efforts of AEAI/SGGA are more narrowly focused on only natural gas from seven fields in the Sheberghan area for the purpose of obtaining reliable gas reserve estimates to attract private investment in the gas sector. AEAI subsequently wrote to APA General Director, Dr. Qutbuddin Qaeym, describing the meeting and conveying the projects' mutual conclusion that they were not duplicative (a concern of Dr. Qaeym that inspired the meeting) but rather were complementary.
- On July 27, 2015, AEAI met with Eng. Farhad Ahmadi, Technical Director of APA and discussed the availability of the data inside APA and the relevant departments. Eng. Farhad offered his support to locate and provide the data to AEAI.
- On July 27, 2015, AEAI met with Dr. Q. Qaeym, APA's General Director, to discuss the data gathering program. He indicated that AEAI had the full support of MoMP and APA in locating and collecting all available data.

## 5 CHALLENGES

- The directive of the Minister of Mines and Petroleum instructing Ministry staff to cooperate with AEAI and permit full access to data is absolutely required, however, frequently Ministry staff has insisted on additional confirmation from their own immediate superiors in addition to the Minister's directive before providing AEAI the data requested. While the issue has been readily handled during data collection in Kabul but could prove more problematic with respect to Sheberghan data collection. AEAI is working with senior Ministry officials to obtain more complete cooperation.
- Data collection has been hampered by the lack of any centralized database within the Ministry, the lack of organization of the available data, and a heavy reliance on institutional memory that disappears over time. The data comes from many sources and there is a lack of coordination among the MoMP divisions and offices making it very difficult to locate required data. Departments with data frequently are unaware of what specific data they hold. In many cases individuals who knew what data was stored and where are no longer with the MoMP, APA or AGS, and significant amounts of data appear to be held by individuals, even after they have left employment at the Ministry.
- SGGA has continuously advised and supported MoMP on different issues and provided MoMP with analysis, letters, and data. It is a matter of concern for AEAI that the Ministry's inadequate handling of data and the lack of coordination among Ministry offices is manifest in the MoMP's inability to use its own resources and staff in performing their day to day tasks.

## 6 PLANS FOR NEXT MONTH

- AEAI staff will Travel to Sheberghan to locate, assemble and collect data from the Oil and Gas Survey and Afghan Gas Enterprise. as well as continue data collection in Kabul.
- Data collection will continue in Kabul. In addition to continuing work with the AGS Information Department, AGS Library, MoMP Main Library, MoMP IT Department, and APA Technical Directorate, AEAI plans to begin work with the World Bank Project Management Unit.